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EXAMINER INGVOLDSTAD, BENNETT				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/553,346

Applicant(s)

SAKAMOTO, KENJI

Examiner

BENNETT INGOLDSTAD

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI/ICE)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____
- Paper No(s)/Mail Date 10/14/05, 1/25/08, 1/17/06

DETAILED ACTION

Claim Objections

1. Claim 24 is objected to because of the following informalities:

Claim 24: "the wireless communication system control program" lacks antecedent basis.

2. Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 22 and 23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 22 and 23: A "program" is non-statutory.

The examiner suggests amending the claims to be directed to a --computer readable medium encoded with a computer program--.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 7-8, 10-11, 14-15, and 17-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamura (US 5883621) in view of Karlquist (US 2004/0203435).

Claim 1: Iwamura discloses a display device (integrated receiver decoder 100 in conjunction with TV set 102 [Fig 1]), comprising:

- reception means for receiving data transmitted [...] from a plurality of transmission devices (IRD 100 receives data from DVD 106, VCRs 108, 112, minidisk recorder 110 [Fig 1]);
- display means for displaying information (TV set 102 [Fig 1]); and
- control means for controlling a function of the display device (IRD 100 outputs received signals to the display [Figs 2a,b]), wherein the control means includes:
 - reception state detection means for detecting a state of reception of the reception means (network reception connections are discovered upon

startup and when a new node joins the network [Fig 3] [col. 4, l. 55 – col. 5, l. 50]); and

- display control means for controlling the display means so that the display means displays images respectively indicating the plurality of transmission devices, based on the state of reception detected by the reception state detection means (the connected transmission devices are displayed as icons on a screen [Fig 6] [col. 1, l. 64 – col. 2, l. 7]).

Iwamura does not disclose that the data transmission is a wireless transmission.

Karlquist discloses a wireless data transmission method for transmitting data between devices [0006]. Karlquist further discloses a mapping method for discovering the network topology [0018] which has an equivalent result as the network mapping discovery method disclosed by Iwamura [Fig 3 and description].

Thus one of ordinary skill would have been able to have substituted the wired transmission method disclosed by Iwamura with the wireless transmission method disclosed by Karlquist because both transmission methods create a network topology mapping for displaying the networked devices (as in Iwamura Fig 6). Therefore the simple substitution of one transmission method for the other would have been obvious to one of ordinary skill because of the equivalency of the transmission methods. The wireless transmission method further provides benefits such as increased device mobility due to lack of wires.

Claim 2, dependent on claim 1: Iwamura in view of Karlquist further discloses wherein the reception state detection means detects the state of reception, based on at least one of electric field strength of a received radio wave and an error ratio of received data (received signal strength or bit error rate used to map the network reception connections [0006]).

Claim 3: Iwamura discloses a display device (integrated receiver decoder 100 in conjunction with TV set 102 [Fig 1]), comprising:

- communication means for performing [...] communication of data with each of a plurality of communication devices (IRD 100 receives data from DVD 106, VCRs 108, 112, minidisk recorder 110 [Fig 1]);
- display means for displaying information (TV set 102 [Fig 1]); and
- control means for controlling a function of the display device (IRD 100 outputs received signals to the display [Figs 2a,b]),
- wherein the control means includes:
 - communication state detection means for detecting a state of communication of the communication means (network communication connections are discovered upon startup and when a new node joins the network [Fig 3] [col. 4, l. 55 – col. 5, l. 50]); and
 - display control means for controlling the display means so that the display means displays images respectively indicating the plurality of communication devices, based on the state of communication detected by

the communication state detection means (the connected transmission devices are displayed as icons on a screen [Fig 6] [col. 1, l. 64 – col. 2, l. 7]).

Iwamura does not disclose that the data transmission is a wireless transmission.

Karlquist discloses a wireless data transmission method for transmitting data between devices [0006]. Karlquist further discloses a mapping method for discovering the network topology [0018] which has an equivalent result as the network mapping discovery method disclosed by Iwamura [Fig 3 and description].

Thus one of ordinary skill would have been able to have substituted the wired transmission method disclosed by Iwamura with the wireless transmission method disclosed by Karlquist because both transmission methods create a network topology mapping for displaying the networked devices (as in Iwamura Fig 6). Therefore the simple substitution of one transmission method for the other would have been obvious to one of ordinary skill because of the equivalency of the transmission methods. The wireless transmission method further provides benefits such as increased device mobility due to lack of wires.

Claim 4, dependent on claim 3: Iwamura in view of Karlquist further discloses wherein the communication state detection means detects the state of communication, based on at least one of electric field strength of a received radio wave, an error ratio of received data (received signal strength or bit error rate

used to map the network communication connections [Karlquist 0006]), and frequency of a request for re-transmission of data based on the error ratio.

Claim 7, dependent on claim 3: Iwamura further discloses wherein the communication state detection means detects a state of communication with communication device(s) with which a communication link is established, out of the plurality of communication devices (e.g. an active communication link, indicated by arrows 925 [Fig 12]).

Claim 8, dependent on claim 3: Iwamura further discloses wherein the display control means controls the display means so that the display means displays the images for respectively indicating the plurality of communication devices in a form according to the state of communication detected by the communication state detection means (the device icons may animate when the devices are in active communication [col. 6, l. 15-18]).

Claim 10: Iwamura discloses a [...] communication system made by connecting one or more communication devices with a display device so that the one or more communication devices can [...] communicate with the display device (DVD 106, VCRs 108, 112, minidisk recorder 110 communicate with display device 102 via IRD 100 [Fig 1]), wherein:

- the one or more communication devices include communication means for performing [...] communication of data with the display device [Fig 1], and
- control means for controlling a function of the one or more communication devices (controlling playback from a device [Fig 11]);
- the display device (IRD 100 in conjunction with TV 102 [Fig 1]) includes
- communication means for performing [...] communication of data with the one or more communication devices (1394 interface [Fig 2b]),
- display means for displaying and outputting information (analog video output [Fig 2b), and
- control means for controlling a function of the display device (cpu 312 [Fig 2b)) ;
- the control means of the one or more communication devices includes
- communication state detection means for detecting a state of communication of the communication means (detecting an active communication connection and displaying it via arrows 925 [Fig 12]), and
- communication state transmission means for transmitting, via the communication means, to the display device, the state of communication detected by the communication state detection means (in order to display active communication arrows 925 [Fig 12]); and
- the control means of the display device includes communication state acquisition means for acquiring, via the communication means, the state of communication detected by the communication state detection means

of the one or more communication devices (in order to display active communication arrows 925 [Fig 12]), and

- display control means for controlling the display means so that the display means displays an image or images indicating the one or more communication devices, based on the state of communication acquired by the communication state acquisition means (displaying active communication arrows 925 [Fig 12]).

Iwamura does not disclose that the data communication is a wireless communication.

Karlquist discloses a wireless data transmission method for transmitting data between devices [0006]. Karlquist further discloses a mapping method for discovering the network topology [0018] which has an equivalent result as the network mapping discovery method disclosed by Iwamura [Fig 3 and description].

Thus one of ordinary skill would have been able to have substituted the wired transmission method disclosed by Iwamura with the wireless transmission method disclosed by Karlquist because both transmission methods create a network topology mapping for displaying the networked devices (as in Iwamura Fig 6). Therefore the simple substitution of one transmission method for the other would have been obvious to one of ordinary skill because of the equivalency of the transmission methods. The wireless transmission method further provides benefits such as increased device mobility due to lack of wires.

Claim 11, dependent on claim 10: Iwamura in view of Karlquist further discloses wherein the communication state detection means of the one or more communication devices detect the state of communication, based on at least one of electric field strength of a received radio wave, an error ratio of received data (received signal strength or bit error rate used to map the network communication connections [Karlquist 0006]), and frequency of a request for re-transmission of data based on the error ratio.

Claim 14, dependent on claim 10: Iwamura further discloses wherein the communication state acquisition means of the display acquires a state of communication with communication device(s) with which a communication link is established, out of the one or more communication devices (e.g. an active communication link, indicated by arrows 925 [Fig 12]).

Claim 15, dependent on claim 10: Iwamura further discloses wherein the display control means of the display device controls the display means so that the display means displays the images for respectively indicating the one or more communication devices in a form according to the state of communication acquired by the communication state acquisition means (the device icons may animate when the devices are in active communication [col. 6, l. 15-18]).

Claim 17, dependent on claim 10: Iwamura in view of Karlquist further discloses wherein there are a plurality of the communication devices (DVD 106, VCRs 108, 112, minidisk recorder 110 [Fig 1]),

- the communication means of each of the communication devices performs wireless communication of data with other communication device(s) as well as with the display device (communication between devices 900 and 903 as well as between device 904 and display device 905/906 [Fig 12]),
- the communication state detection means of each of the communication devices detects a state of communication with other communication device(s) as well as with the display device [Fig 12],
- the display control means of the display device controls the display means so that the display means displays the images respectively indicating the communication devices, based on the state of communication of the communication devices acquired by the communication state acquisition means [Fig 12].

Claim 18, dependent on claim 10: Iwamura in view of Karlquist further discloses wherein there are a plurality of the communication devices (DVD 106, VCRs 108, 112, minidisk recorder 110 [Fig 1]),

- the communication means of each of the communication devices performs wireless communication of data with other communication device(s) as

well as with the display device (communication between devices 900 and 903 as well as between device 904 and display device 905/906 [Fig 12]),

- the communication state detection means of each of the communication devices detects a state of communication with other communication device(s) (for displaying active communication arrows 920 [Fig 12]),
- the display device further includes communication state detection means for detecting a state of communication with each of the communication devices (for displaying active communication arrows 920 and 925 [Fig 12]), and
- the display control means controls the display means so that the display means displays the images for indicating the communication devices, based on (i) the state of communication of each of the communication devices acquired by the communication state acquisition means and (ii) the state of communication with each of the communication devices detected by the communication state detection means [Fig 12].

Claim 19: Iwamura discloses a control method of a display device including:

- reception means for receiving data transmitted [...] from a plurality of transmission devices (IRD 100 receives data from DVD 106, VCRs 108, 112, minidisk recorder 110 [Fig 1]); and display means for displaying information (TV 102 [Fig 1]),

- wherein said display device detects a state of reception of the reception means, and displays images respectively indicating the plurality of transmission devices, based on the detected state of reception [Fig 12].

Iwamura does not disclose that the data communication is a wireless communication.

Karlquist discloses a wireless data transmission method for transmitting data between devices [0006]. Karlquist further discloses a mapping method for discovering the network topology [0018] which has an equivalent result as the network mapping discovery method disclosed by Iwamura [Fig 3 and description].

Thus one of ordinary skill would have been able to have substituted the wired transmission method disclosed by Iwamura with the wireless transmission method disclosed by Karlquist because both transmission methods create a network topology mapping for displaying the networked devices (as in Iwamura Fig 6). Therefore the simple substitution of one transmission method for the other would have been obvious to one of ordinary skill because of the equivalency of the transmission methods. The wireless transmission method further provides benefits such as increased device mobility due to lack of wires.

Claim 20: Iwamura discloses a control method of a display device including: communication means for performing [...] communication of data with each of a plurality of communication devices (IRD 100 receives data from DVD 106, VCRs

108, 112, minidisk recorder 110 [Fig 1]); and display means for displaying information (TV 102 [Fig 1]), wherein said display device detects a state of communication of the communication means, and displays images respectively indicating the plurality of communication devices, based on the detected state of communication [Fig 12].

Iwamura does not disclose that the data communication is a wireless communication.

Karlquist discloses a wireless data transmission method for transmitting data between devices [0006]. Karlquist further discloses a mapping method for discovering the network topology [0018] which has an equivalent result as the network mapping discovery method disclosed by Iwamura [Fig 3 and description].

Thus one of ordinary skill would have been able to have substituted the wired transmission method disclosed by Iwamura with the wireless transmission method disclosed by Karlquist because both transmission methods create a network topology mapping for displaying the networked devices (as in Iwamura Fig 6). Therefore the simple substitution of one transmission method for the other would have been obvious to one of ordinary skill because of the equivalency of the transmission methods. The wireless transmission method further provides benefits such as increased device mobility due to lack of wires.

Claim 21: Iwamura discloses a control method of a wireless communication system made by connecting one or more communication devices with a display device so that the one or more communication devices can [...] communicate with the display device (IRD 100 receives data from DVD 106, VCRs 108, 112, minidisk recorder 110 [Fig 1]), wherein:

- the one or more communication devices include communication means for performing [...] communication of data with the display device [Fig 1],
- the display device includes communication means for performing [...] communication of data with the one or more communication devices [Fig 1], and display means for displaying information (TV 102 [Fig 1]),
- said [...] communication system detects a state of communication of communication means of the one or more communication devices, transmits the detected state of communication from the one or more communication devices to the display device, and displays an image or images indicating the one or more communication devices on display means of the display device, based on the transmitted state of communication [Fig 12].

Iwamura does not disclose that the data communication is a wireless communication.

Karlquist discloses a wireless data transmission method for transmitting data between devices [0006]. Karlquist further discloses a mapping method for discovering the network topology [0018] which has an equivalent result as the

network mapping discovery method disclosed by Iwamura [Fig 3 and description].

Thus one of ordinary skill would have been able to have substituted the wired transmission method disclosed by Iwamura with the wireless transmission method disclosed by Karlquist because both transmission methods create a network topology mapping for displaying the networked devices (as in Iwamura Fig 6). Therefore the simple substitution of one transmission method for the other would have been obvious to one of ordinary skill because of the equivalency of the transmission methods. The wireless transmission method further provides benefits such as increased device mobility due to lack of wires.

Claim 22, dependent on claim 1: Iwamura in view of Karlquist further discloses a display device control program for causing the display device as set forth in claim 1 to function, said display device control program being for causing a computer to function as the control means (program running in CPU 312 [Fig 2b]).

Claim 23, dependent on claim 1: Iwamura in view of Karlquist further discloses a wireless communication system control program for causing a wireless communication system as set forth in claim 1 to function, said wireless communication system control program being for causing a computer to function as control means for both of the communication device and the display device

(program running on wireless network interface [Karquist 0006] connected to IRD 100 [Iwamura Fig 1]).

Claim 24, dependent on claim 1: Iwamura in view of Karlquist further discloses a storage medium readable by a computer, for storing the display device control program as set forth in claim 22 (for execution on CPU 312 [Fig 2b]), and/or the wireless communication system control program (for execution by wireless interface [Karlquist 0006]).

7. Claims 5-6, 9, 12-13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamura (US 5883621) in view of Karlquist (US 2004/0203435), further in view of Haines (US 2003/0063589).

Claims 5 and 12, dependent on claims 3 and 10 respectively: Iwamura in view of Karlquist does not further disclose wherein the display control means determines a distance from the display device, based on the state of communication detected by the communication state detection means, and controls the display means so that the display means displays the images respectively indicating the plurality of communication devices, based on the determined distance.

Haines discloses a wireless network mapping method that determines a distance between wireless devices [Abstract] so that users may more easily

identify the location of networked devices so that they can physically interact with the networked devices [0003].

It would have been obvious to have enhanced the network mapping method disclosed by Iwamura in view of Karlquist with the teaching of Haines' network mapping method for the purpose of generating a more accurate network topology that takes distance into account, thus enabling users to more easily identify which device they are interacting with (e.g., which VCR is being used [Iwamura Fig 12]) by generating a topology superimposed on a map [Haines 0041].

Taken together, the references disclose wherein the display control means determines a distance from the display device [Haines Abstract], based on the state of communication detected by the communication state detection means (based on the received signal strength [Karlquist 0006] [Haines 0005]), and controls the display means so that the display means displays the images respectively indicating the plurality of communication devices, based on the determined distance (displaying the network topology [Iwamura col. 5, l. 66 – col. 6, l. 5] which shows the distance between devices [Haines 0006, 0041]).

Claims 6 and 13, dependent on claims 5 and 12 respectively: Iwamura further discloses wherein the display control means controls the display means so that the display means displays according to perspective (a hierarchical topology perspective [Fig 7]).

Claims 9 and 16, dependent on claims 3 and 10 respectively: Continuing with the combination set forth for claim 5, Iwamura in view of Karlquist, further in view of Haines discloses storage means for storing information regarding rooms in which the plurality of communication devices are placed (for storing a map of the building in relation to device locations [Haines 0041]), wherein the display control means performs display control, so as to display an image for indicating each of the rooms (a building map [Haines 0041]), based on a state of communication of communication device(s) placed in each of the rooms, out of the state of communication detected by the communication state detection means (based on distance which is determined by communication signal strength [Haines 0006]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENNETT INGOLDSTAD whose telephone number is (571)270-3431. The examiner can normally be reached on M-Th 8-6:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Beliveau can be reached on (571) 272-7343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2623

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BI

/Scott Beliveau/
Supervisory Patent Examiner, Art Unit 2623